



SOUTHERN NEVADA WATER AUTHORITY®

Las Vegas Wash Riparian Restoration Project

(\$900,500)

WaterSMART Environmental Water Resource Projects for Fiscal Year 2022

Notice of Funding Opportunity No. R22AS00026

Category A Applicant

December 9, 2021

Applicant:

Southern Nevada Water Authority

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1. Technical Proposal: Executive Summary

Date: December 9, 2021

Applicant: Southern Nevada Water Authority (Category A Applicant)

Location: 1001 South Valley View Boulevard, Las Vegas, Nevada 89153 (Clark County)

Project Summary

Serving as the crucial final link in the Las Vegas Valley (Valley) watershed, the Las Vegas Wash (Wash) channels more than 200 million gallons of highly treated effluent, urban runoff, and shallow groundwater to Lake Mead each day, and carries stormwater to the lake during rain events. The wetlands in the Wash help to filter impurities from these flows. In the proposed project, the Southern Nevada Water Authority (SNWA) will revegetate and restore approximately 13 acres of riparian corridors in the Clark County Wetlands Park (CCWP), a natural area through which the Wash flows. This project will improve habitat for wildlife, including two federally listed bird species, namely the endangered southwestern willow flycatcher and the threatened yellow-billed cuckoo. It will also positively impact water quality, helping protect Lake Mead, the primary source of drinking water for southern Nevada. Environmental enhancement and stabilization along the Wash has yielded important water quality benefits, including the reduction of total suspended solids (TSS) by approximately 60 percent, resulting in the channel's removal from the 303(d) list of impaired waters for the state. This project is supported by numerous stakeholders, including members of the Las Vegas Wash Coordination Committee (Coordination Committee) and Las Vegas Valley Watershed Advisory Committee (Advisory Committee). The project's actions are substantiated by the Wash Comprehensive Adaptive Management Plan and SNWA's Regional Water Quality Plan, as projects that enhance the environment for fish and wildlife, manage the watershed to help protect Lake Mead as a source of water for southern Nevada and downstream users, and preserve and enhance the natural, cultural, historic, and recreational values of the watershed.

Length of Time and Estimated Completion Date

The proposed project encompasses activity from September 2022 through August 2025. All project work will be completed by August 2025.

Federal Facilities

A portion of the proposed project area within the CCWP is on Federal land owned by the Bureau of Reclamation (Reclamation).

2. Technical Proposal: Project Location

The proposed Las Vegas Wash Riparian Restoration Project is located in the Wash in the southeastern portion of the Valley in Clark County, NV. The Wash flows through the CCWP to the Las Vegas Bay at Lake Mead. The proposed project location is Section 16, Township 14S, Range 65E, 114.981919°W 36.087699°N.

A map of the proposed project area is included as Figure 1 below, while a map of the Las Vegas Valley Watershed (Watershed) is included as Figure 2 below.

Figure 1. Proposed Project Location Map

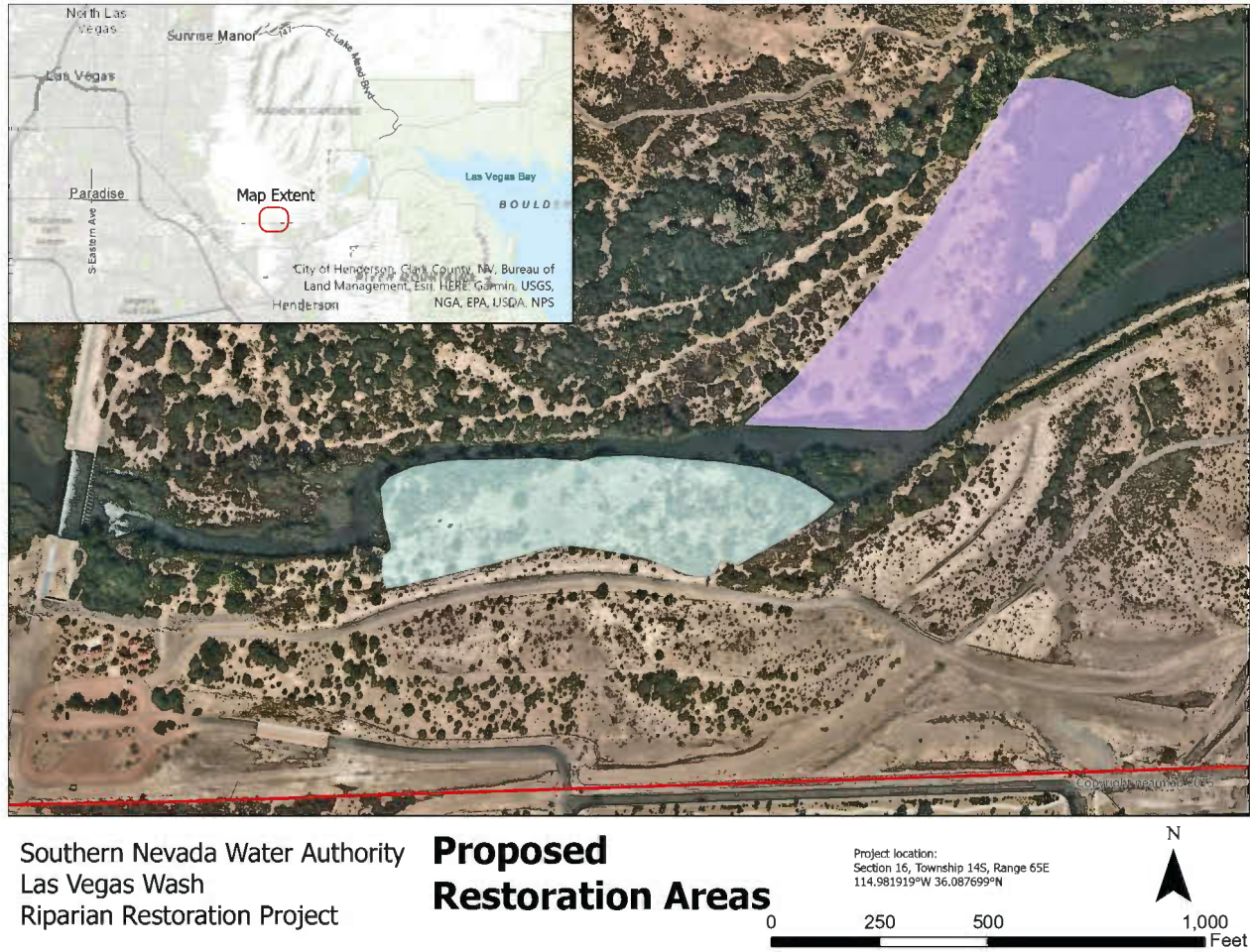
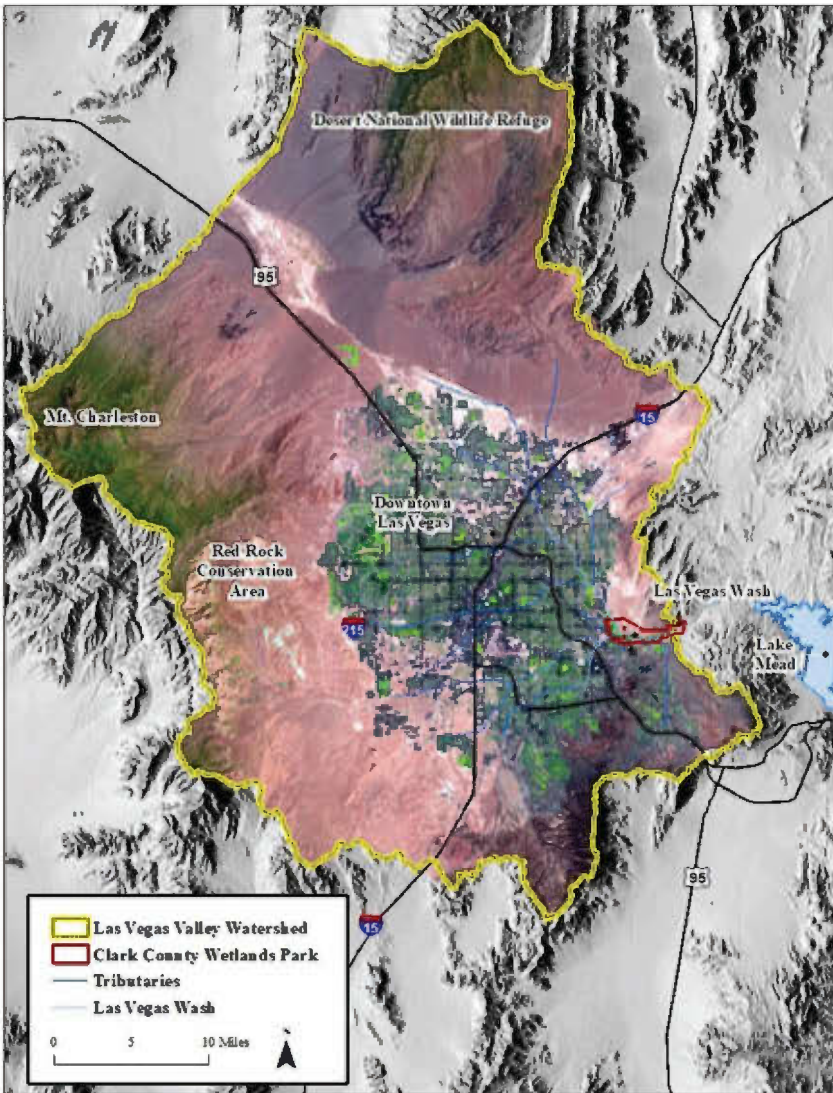


Figure 2. Watershed Map



3. Technical Proposal: Technical Project Description

The Wash is a critical link in southern Nevada’s watershed. The Wash is the primary outlet for drainage from the metropolitan Valley, an area of approximately 1,600 square miles, making it the largest urban area that drains directly into the Colorado River. Daily flows are comprised of highly treated effluent, landscape and surface street runoff, and intercepted shallow groundwater. Occasional flows come from rain events. The Wash flows through the CCWP, a 2,900-acre park managed by Clark County.

In 1998, a water quality citizens advisory committee recommended that SNWA organize and lead a group of stakeholders to address erosion and other water quality and environmental degradation issues on the Wash. SNWA convened the Coordination Committee, comprised of 28 stakeholders from local, state, and federal agencies, environmental groups, the University of Nevada-Las Vegas (UNLV), and community members. The group developed 44

recommendations or action items, including extensive revegetation, to achieve its goals and help protect Lake Mead's water quality. The Advisory Committee provides local oversight and funding for the Coordination Committee's efforts. The Advisory Committee consists of eight water, wastewater, and stormwater agencies, including municipalities representing diverse land, recreation, and environmental perspectives. SNWA is the lead agency of the Coordination Committee and houses the implementation team; it is also a member of the Advisory Committee.

The proposed project is located along the Wash within the CCWP and will include engineering and landscape design, removal of gravel deposited on the site, contouring to allow for planting and water flow to not impact existing erosion control measures, and revegetating and restoring approximately 13 acres of riparian corridors along the Wash with native riparian trees. Native trees to be planted include Fremont's cottonwood (*Populus fremontii*), Goodding's willow (*Salix gooddingii*), and sandbar willow (*Salix exigua*). Riparian species of milkweed (*Asclepias* sp.) will also be planted.

The trees will be planted using poles and cuttings. The vegetation will be installed in areas near surface water or high-water tables. Poles and cuttings will be collected from nearby sites. Channels or pools will be created within the sites using heavy equipment such as an excavator, backhoe, or skid steer; individual holes will also be dug using augers. Plant materials will be inserted along the edges of the trenches, pools, and holes to the appropriate depth. Native seeds will be purchased from local nurseries to be spread throughout the sites, creating a diverse riparian understory to enhance the wildlife habitat. Seed species will include milkweed, alkali bulrush (*Schoenoplectus maritimus*), Baltic rush (*Juncus balticus*), and others. Invasive and noxious weeds will be removed and monitored to allow optimum conditions for the native trees and shrubs to survive. Weeds will be removed from the site by manual, mechanical, and chemical methods.

Since riparian habitat is relatively rare in the region, the goal of the proposed project is to increase the acreage of this habitat type and benefit the wide variety of wildlife that relies on it including the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and the threatened yellow-billed cuckoo (*Coccyzus americanus*). The proposed project will also work towards further reducing erosion of the Wash banks and improve water quality prior to the Wash entering Lake Mead, the primary source of drinking water for southern Nevada.

4. Technical Proposal: Performance Measures

Since it can take several years for riparian habitat to mature and be utilized by wildlife, the benefits of this project will not be fully realized in the three-year project period. Thus, performance measures will occur in two timeframes and across two categories. The first will occur in the three-year project period and measure planting success and other site criteria. The second will be conducted during the project period but then will continue for two to three years afterwards and measure benefits to wildlife.

1. Measures of Planting Success and Other Site Criteria

- **Survival Data. Propagated Plants.** Survival data will be reported as the percent of living plants of the total number installed in a project site. *Poles and cuttings.* Data will be

reported as the approximate percentage of installed poles or cuttings still alive at the end of the first growing season.

- **Species Richness.** Species richness is the number of species (native and non-native) at the site(s). These data will be compared to the species richness prior to the planting performed as part of this project.
- **Photo Points.** Photo points will be established at the project site before any work is initiated, and then photos will be taken after various treatments such as ground preparation and planting have been implemented.

2. Measures of Benefits to Wildlife

- **Biological Surveys.** The true measure of project benefits will be use of the new vegetation by wildlife, particularly birds. There is a year-round, biweekly survey for birds at more than 30 points along the Wash, including the proposed project site. Targeted surveys are also conducted for the southwestern willow flycatcher and yellow-billed cuckoo in the breeding season using federal protocols. For the flycatcher, standard measurements are migrant detections (unknown subspecies) and breeding territories (residents of the endangered subspecies). For the cuckoo, results are measured in detections and then in detections across survey periods, yielding possible, probable, or confirmed breeding territory designations. Other biological surveys may also occur.

5. Technical Proposal: Evaluation Criteria

E.1.1. Evaluation Criterion A—Project Benefits

E.1.1.1. Sub-Criterion A.1—Benefits to Ecological Values

Please provide a general description of how your project will benefit ecological values by responding to the bullets listed below.

Please explain how the project will benefit ecological values that have a nexus to water resources or water resources management, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems that are supported by rivers, streams, and other water sources, or that are directly influenced by water resources management. In your response, please identify the specific ecological values benefitted and how those ecological values depend on, or are influenced by, water resources or water resources management.

The proposed project will benefit ecological values along the Wash, which is the primary drainage for the 1,600 square-mile Valley. The Wash's flows consist of stormwater, highly treated effluent, landscape and surface street runoff, and intercepted shallow groundwater. Highly treated effluent from four water treatment facilities (serving Boulder City, Las Vegas, Henderson, North Las Vegas, and areas of unincorporated Clark County) is the primary water source in the Wash's daily flows. Through this recycling process, the treated water is returned to Lake Mead, earning Nevada return-flow credits against the state's Colorado River allotment. This extends southern Nevada's water resources an acre-foot for every acre-foot treated and returned and makes the Wash a vital component to the water resources of southern Nevada.

More than two decades of erosion control and restoration on the Wash has also made it an important ecological area, with 21 installed erosion control structures and nearly 600 restored acres. More than 375 species of vertebrate wildlife and nearly 600 species of invertebrates have been identified at the Wash. Since the Wash is surrounded by the Mojave Desert and urban landscape, many of these species depend on the unique riparian and wetland habitats at the Wash. Some areas near the initial erosion control efforts and first restoration sites experienced continued erosion and sediment deposition after installation. That issue has been reduced with additional structures, but these areas now fragment the riparian and wetland corridors as they provide less suitable habitat for vegetation or wildlife.

The proposed project will replace these areas with additional riparian vegetation, providing and improving wildlife habitat for diverse species along the Wash, including habitat the endangered southwestern willow flycatcher and the threatened yellow-billed cuckoo. Habitat will include cover, breeding, and nesting areas. These species require large contiguous patches of habitat and the proposed project work will connect existing habitats to enlarge the potential habitat.

Please also explain whether the project will increase water supply reliability for ecological values by improving the timing or quantity of water available; improving water quality and temperature; or improving stream or riparian conditions for the benefit of plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems, or through similar approaches.

The proposed project will result in improved water quality along the Wash, which is a tributary into Lake Mead and the Colorado River. Past restoration and erosion control projects along the Wash have resulted in a reduction of TSS of approximately 60 percent, as well as reduced nitrogen, phosphorus, and some metals, leading to improved water quality for the fish and wildlife that live in the Wash, as well as in Las Vegas Bay, where the Wash enters Lake Mead. The project will also improve the existing stream and riparian conditions to benefit plant and animal species, fish and wildlife habitat, riparian areas, and the local ecosystem.

In addition to directly increasing the quantity of riparian areas, the proposed project will also improve the overall quality of riparian habitat by connecting habitats upstream and downstream of the project location. Continuity of habitat is important for many nesting birds, particularly the yellow-billed cuckoo, and other wildlife that use larger patches of vegetation for cover and protection, as well as finding food. Two of the primary species to be planted at the project site are Fremont's cottonwood and Goodding's willow. These keystone riparian species provide a variety of ecological benefits including 1) nesting habitat, 2) food for numerous insects that then serve as a food source for birds and other wildlife, 3) vitally important shade, and 4) soil stabilization to reduce erosion and protect water quality due to their large root systems.

If the project will benefit multiple water uses (i.e., benefits to ecological values AND benefits to other water uses, e.g., municipal, agricultural, or tribal water uses), please explain how the project benefits other water uses.

To complement the proposed projects benefits to ecological values, the project also benefits other water uses. While the Wash input into the Colorado River is relatively small in terms of water quantity (representing approximately two percent of the inflows to Lake Mead), it has a substantial impact on the water quality. SNWA and the Coordination Committee work closely

with representatives from neighboring states to ensure that the water quality in the Wash does not detrimentally impact the water quality of Lake Mead and therefore, the water released to those states for municipal and agricultural uses. Due to the water quality benefits, the project also benefits tribal water uses in the Lower Basin, including the Fort Mojave Indian Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Quechan Indian Tribe, and Cocopah Indian Tribe.

This project expands previous work along the Wash to ensure high quality water is returned to Lake Mead by reducing erosion and increasing nutrient uptake by vegetation.

E.1.1.2. Sub-Criterion A.2—Quantification of Specific Project Benefits by Project Type

Explain the extent of project benefits. Please respond to the following questions for each project type included in your application (i.e., please only respond to the section(s) of this subcriterion that are relevant to your project).

Project benefits for water efficiency projects that result in quantifiable and sustained water savings or improved water management—and which increase water supply reliability for ecological values.

This project is not expected to produce quantifiable water savings, so benefits for this project type are not included in the proposal.

Project Benefits for Drought Resiliency Projects Related to Fish and Wildlife

What are the types and quantities of environmental benefits provided, such as the types of species and their numbers benefited; acreage of habitat improved, restored, or protected; or the amount of flow provided? How was this estimate calculated?

In the proposed project, approximately 13 acres of riparian habitat will be restored, which will provide substantial benefits for species and habitats. More than 375 vertebrate and nearly 600 invertebrate species of wildlife call the Wash home, including nearly 300 bird species, and most of these species are native to the area. Riparian habitats are critical to most species of bird at some point in their life cycle. In addition, a variety of reptiles, including various lizards and snakes, have been detected in riparian areas of the Wash, as well as amphibian species. Many mammals utilize riparian habitat along the Wash. A capture survey of bats in 2008-2009 collected 195 bats in riparian areas along the Wash, including four captures of the western yellow bat, a state-listed sensitive species in Nevada. Two camera trap studies of large and medium-sized mammals were conducted in riparian areas along the Wash in 2011 and 2018-2019. The 2011 study documented three species not identified along the Wash since the 1970s: the western spotted skunk (six observations), a single striped skunk, and ring-tailed cats (three observations). The 2018-2019 study had 11 captures of gray fox and 13 captures of bobcat, both of which had only a single previous observation since studies conducted in the 1970s. A survey conducted in 2011 found 10 species of small mammals, including the western harvest mouse, which can only be found in riparian habitats, and had not been identified along the Wash since the 1970s. The monarch butterfly, a candidate species for listing under the Endangered Species Act (ESA), has also been observed in riparian areas along the Wash. Individual monarchs have been tagged as part of the Southwest Monarch Study in the proposed project area, and successful

reproduction was confirmed in 2021 immediately downstream of this project where previous restoration has taken place.

The project will increase the amount of potentially suitable nesting habitat for two federally listed bird species, the endangered southwestern willow flycatcher and the threatened yellow-billed cuckoo. While no critical habitat is designated in the project area, the southwestern willow flycatcher and yellow-billed cuckoo are riparian obligates. Since 1998, two of just three confirmed southwestern willow flycatcher territories were established near the project site, while another has hosted a high number of migrants. Several yellow-billed cuckoo detections have been made in the project area in recent years including a probable breeding territory in 2017 and a possible breeding territory in 2019.

If the project will make more water available, or make water available at a more advantageous time or location, how much additional water will be made available?

The proposed project is not anticipated to make more water available or make water available at a more advantageous time or location.

How is the species or habitat impacted by drought?

Given their reliance on regular water, riparian areas are rare in the dry Mojave Desert and particularly susceptible to drought. By excavating and planting native species close to the water table and expanding patch sizes, this project will help increase the drought resiliency of these important habitat types and the wildlife that relies on them. Many migratory birds that visit the Wash annually rely on these unique areas along their route to sustain them with proper habitat and food sources during their journey.

Two federally listed species, the southwestern willow flycatcher and yellow-billed cuckoo, both use riparian areas in the desert Southwest as nesting habitat and as a food source during the northern part of their migratory journey, as well as for the successful young that are reared here. By expanding and improving the riparian habitat along the Wash, additional areas for these and other birds to nest and reproduce will be provided.

If the proposed project will benefit federally listed threatened or endangered species, please consider the following elements:

Is the species subject to a recovery plan or conservation plan under the ESA?

The project will increase the amount of potentially suitable nesting habitat for two federally listed bird species, the endangered southwestern willow flycatcher and the threatened yellow-billed cuckoo.

U.S. Fish and Wildlife Service (USFWS) issued a final recovery plan for the southwestern willow flycatcher in 2002. The project area is in the Middle Colorado Management Unit of the Lower Colorado Recovery Unit. Within the Management Unit, the minimum number of territories that need to be reached for reclassification is 25 across the two reaches identified, neither of which is in Nevada. While the Wash is not specifically identified, the plan states that “[a]dditional reaches may also contribute to recovery goals.” The recovery goal to delist the species is 1,950 territories, geographically distributed, with protection from threats and of the

needed habitat to adequately support the population. In 2012 (the latest year for which data has been compiled), the range-wide population was estimated at 1,629 territories, and just one territory was reported in the Middle Colorado River Management Unit.

No recovery plan or conservation plan has been established for the yellow-billed cuckoo.

What is the relationship of the species to water supply?

Southwestern willow flycatcher and yellow-billed cuckoo are riparian dependent species during migration and nesting. Important riparian species along the Wash are Fremont's cottonwood and sandbar and Goodding's willows, which require consistent access to water. The foliage in these trees provides a healthy insect community for feeding, cover from predation, and some relief of high summer temperatures.

What is the extent of the proposed project that would reduce the likelihood of listing, or would otherwise improve the status of the species?

The proposed project would contribute towards the expansion of available habitat for the endangered southwestern willow flycatcher, as well as threatened yellow-billed cuckoo.

Recent annual surveys of both species have identified individuals that have established territories in attempt to find a mate. Although no breeding pairs of either species have been documented along the Wash in the 20-plus-year history of the Coordination Committee, expansion of appropriate habitat along the Wash could play an important role in establishing successful and recurring breeding locations for these at-risk species, as well as other bird species that benefit from riparian vegetation zones in the Mojave Desert.

Is the species adversely affected by a Reclamation project?

No, the species is not adversely affected by a Reclamation project.

Project Benefits for Watershed Management Projects

If the project will result in long-term improvements to water quality (e.g., decrease sediment or nutrient pollution, improve water temperature, or mitigate impacts from floods or drought) please explain the extent of those benefits (i.e., magnitude and geographic extent). Please estimate expected project benefits to water quality and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

The proposed project will result in long-term improvements to water quality by mitigating drought and flood impacts, decreasing erosion, and reducing TSS and other pollutants.

Riparian areas in the region are both limited and fragmented, which makes them and the wildlife that rely on them especially susceptible to drought impacts. This natural susceptibility is further impacted by non-native plant species replacing native species and erosion reducing flood plains and the area in which native wetland and riparian species can survive. Riparian areas provide important functions in watersheds. Enhancing and expanding the riparian corridor and increasing patch sizes will help increase flood water retention and groundwater recharge. Many native riparian trees can develop vast root systems that are resilient to drought and will live for many

decades, sometimes over 80 years. These root systems help stabilize the soils, reducing erosion during storm events, which reduces the amount of sediment entering the Wash. Wetland areas are known to have higher rates of biological activity than most ecosystems and can filter pollutants from flows. Wetlands are a critical link in the biological transformations that take place to improve water quality, such as reducing nitrogen and phosphorus loads, as well as TSS, heavy metals, and other concerning pollutants. Water quality studies in the Wash have shown a reduction of approximately 60 percent in the amount of TSS following the implementation of the stabilization and revegetation program, leading to the Wash being removed from Nevada's 303(d) list of impaired waters, a major accomplishment.

Riparian restoration is important to the wetland system in the Wash, with restoration in the Wash channel or along the banks playing different roles in water quality improvements. [A study conducted by the Desert Research Institute and SNWA](https://www.lvwash.org/assets/pdf/resources-wetlands-metals.pdf) published in 2011 (<https://www.lvwash.org/assets/pdf/resources-wetlands-metals.pdf>) discussed the removal of nutrients and metals in the Wash. Generally, plants in the Wash wetlands uptake nutrients (nitrogen and phosphorus in the Wash water) as food sources. The plants also remove some trace metals in the water. Data collected from multiple locations in the Wash have shown that the wetlands in the Wash are playing an important role in water quality improvements. TSS concentrations continue to stay low (<10 mg/L at most times in the Wash). Comparing 2021 data to 2020 data, the concentrations at the end of the Wash are:

- 12 percent lower for nitrate + nitrite,
- 11 percent lower for orthophosphate,
- 37 percent lower for total phosphorus,
- 9 percent lower for selenium,
- 20 percent lower for perchlorate,
- 25 percent lower for zinc,
- 8 percent lower for chromium, and
- 18 percent lower for copper.

If the project will benefit aquatic or riparian ecosystems within the watershed (e.g., by reducing flood risk, reducing bank erosion, increasing biodiversity, or preserving native species), please explain the extent of those benefits (i.e., magnitude and geographic extent). Please estimate expected project benefits to ecosystems and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

The proposed project will benefit both ecosystems within the Watershed and provide benefits downstream. In addition to increasing potentially suitable nesting habitat for the bird species discussed in the next question, this revegetation and restoration project will reduce bank erosion by increasing native vegetation along the Wash. The root systems of this vegetation will anchor the soil, reducing erosion during storm events. Riparian ecosystems are known to support significantly higher biodiversity than surrounding uplands, and so the project should increase biodiversity at these sites. In addition, it will preserve native species and enhance their habitats, two of three wildlife management objectives of the Wash.

The benefits of this proposed project will also extend downstream to Lake Mead. The reduction of nutrients and TSS, along with the habitat improvements, will benefit water quality and

wildlife habitat connectivity into Lake Mead and the Lower Colorado River. Migratory birds travel along waterways such as the Colorado River north into southern Nevada and increasing the connectivity of suitable habitat will benefit many of these species. The water quality impacts of the Wash on Lake Mead are also substantial with the warmer Wash water floating on top of Lake Mead as the water travels to Hoover Dam and downstream to other states and Mexico. Improving water quality of the Wash improves the water quality throughout the system.

If the project will benefit specific species and habitats, please describe the species and/or type of habitat that will benefit and the status of the species or habitat (e.g., native species, game species, federally threatened or endangered, state listed, or designated critical habitat). Please describe the extent (i.e., magnitude and geographic extent) to which the project will benefit the species or habitat, including an estimate of expected project benefits and documentation and support for the estimate.

This project will have substantial benefits for species and habitats. It will increase riparian habitat by approximately 13 acres. More than 375 vertebrate and nearly 600 invertebrate species of wildlife call the Wash home, including nearly 300 bird species, and most of these species are native to the area. Riparian habitats are critical to most species of bird at some point in their life cycle. In addition, a variety of reptiles, including various lizards and snakes, have been detected in riparian areas of the Wash, as well as amphibian species. Many mammals such as bats, western harvest mouse, coyote, and gray fox, utilize riparian habitat along the Wash. The monarch butterfly, a candidate species for listing under the ESA, has also been observed in riparian areas along the Wash.

The project will increase the amount of potentially suitable nesting habitat for two federally listed bird species, the southwestern willow flycatcher and the threatened yellow-billed cuckoo. While no critical habitat is designated in the project area, the southwestern willow flycatcher and yellow-billed cuckoo are riparian obligates. Since 1998, two of just three confirmed southwestern willow flycatcher territories were established near the site, while another has hosted a high number of migrants. Several yellow-billed cuckoo detections have been made in the project area in recent years including a probable breeding territory in 2017 and a possible breeding territory in 2019.

Suitable habitat for the southwestern willow flycatcher and yellow-billed cuckoo, as well as other riparian obligate species, is generally rare and fragmented in the southwestern United States. This fragmentation is more prevalent in southern Nevada. The proposed project will connect, enhance, and expand the riparian habitat found on the Wash, which offers potentially suitable nesting habitat and could become an important resource for food for these sensitive species.

The monarch butterfly, a candidate species for listing under the ESA, has been found in and near the project area on multiple occasions. Individuals are likely utilizing the shade of the large riparian trees to cool down during their migratory journey through the desert Southwest. Successful reproduction has taken place in nearby areas restored with milkweed, which is the only host plant on which monarchs lay eggs, so riparian milkweed species will be included in the project. By increasing suitable habitat for the monarch, it will benefit the species, which can be found throughout the western United States.

Are there project benefits not addressed in the preceding questions? If so, what are these benefits?

All anticipated watershed management project benefits have been discussed in the preceding questions.

Project benefits for multi-benefits projects: If applicable, please describe the extent to which the project will benefit multiple water uses. Please do not repeat information included in your prior responses.

Please describe the extent to which the project will benefit agricultural, municipal, tribal, or recreation uses? Please explain how your estimate of benefits to multiple uses was calculated and provide support for your response.

Multiple water uses will benefit from this project, including municipal, environmental, and recreational. Municipal uses benefit by the positive impact on water quality since the Wash flows into Lake Mead, which is the primary source of drinking water for 2.2 million people in southern Nevada. Additionally, the Wash is the return-flow conveyance for treated Colorado River water, helping to extend southern Nevada's water resources an acre-foot for every acre-foot treated and returned. Armoring the channel against erosion protects this valuable resource.

Environmental uses that will benefit from the project include the water that supports wetlands and wildlife within the project area. The proposed project is located within the CCWP, a 2,900-acre park managed by Clark County as a natural area. The park is free to visit and includes biking and walking trails which are open daily from dawn to dusk, kiosks, picnic areas, and a Nature Center with an exhibit hall and auditorium, providing the public with educational, recreational, and research opportunities. The trail system includes a 13-mile loop around the Wash that connects to the Las Vegas, Henderson, and River Mountains bicycle trail systems. Clark County's 2019 park visitor estimate was 275,000 guests, which includes 16,461 program and event participants. The open use visitor estimate was over 500,000 guests in 2020 and nearly 380,000 guests for 2021 (through September).

Will the project reduce water conflicts within the watershed?

Projects such as the proposed project, that maintain and improve water quality, as well as benefit multiple uses, are helpful in reducing water conflicts in the Watershed.

Will the project provide benefits to other water uses not mentioned above? If so, how and to what extent?

No; the proposed project will provide benefits to water uses as outlined in the above answers.

E.1.2. Evaluation Criterion B—Collaborative Project Planning

Was the proposed project described in your application developed as part of a collaborative process by: 1) A watershed group, as defined in section 6001 of the Cooperative Watershed Management Act, or 2) A water user and one or more stakeholders with diverse interests (i.e., stakeholders representing different water use sectors such as agriculture, municipal, tribal, recreational, or environmental)?

The proposed project was developed by SNWA, with support from stakeholder groups represented in the Coordination Committee and Advisory Committee.

The Coordination Committee was organized in 1998 to address erosion and water quality issues. It includes representatives from 28 federal, state, and local agency partners, environmental groups, and UNLV, as well as two citizen members.

The Advisory Committee addresses water availability and quality issues within the Watershed. They represent a diverse group of stakeholders, meet regularly, and work to meet its mission to protect, preserve, and enhance the quality and quantity of water resources in the Watershed and to sustain economic well-being and protect the environment for present and future generations.

Advisory Committee members include:

- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County
- Clark County Regional Flood Control District
- Clark County Water Reclamation District
- Las Vegas Valley Water District
- SNWA

Describe the strategy or plan that supports your proposed project. When was the plan or strategy prepared and for what purpose?

The Coordination Committee's work is guided by the Wash Comprehensive Adaptive Management Plan (CAMP). The CAMP was first published in 2000, addressing issues such as erosion, habitat loss, and water quality. The CAMP has directed the Coordination Committee's stabilization and enhancement of the channel for more than two decades. The CAMP was also a key document in the Coordination Committee's development of the long-term operating plan for the Wash.

The Advisory Committee developed a Regional Water Quality Plan (Plan), which outlines the critical role the agencies play in protecting the Watershed's resources, including municipal drinking water supplies, wildlife habitat, and recreation.

What types of issues are addressed in the plan? For example, does the plan address water quantity issues, water quality issues, and/or issues related to ecosystem health or the health of species and habitat within the watershed?

Chapter 2 of the CAMP, *Flows in the Las Vegas Wash*, discusses the types of flows into the Wash and how they are measured. This chapter also outlines consumptive use and return-flow credits. CAMP Chapter 4, *Water Quality*, addresses water quality concerns specific to different types of flow and how those concerns can be managed to ensure safe, clean drinking water for southern Nevada and downstream users of the Colorado River. Chapter 10 of the CAMP, *Environmental Resources Study Team*, outlines the work needed to protect and enhance

environmental resources at the Wash. The Environmental Resources Study Team consisted of members with the necessary expertise to address environmental resource issues within the Wash, including water quantity, water quality, soils, vegetation, fish and wildlife, and cultural resources. This chapter contains recommended actions such as developing long-term management and monitoring plans, conducting additional research, preserving and addressing cultural resources issues, identifying funding needs, and facilitating collaboration to implement projects. Chapters 2, 4, and 10 of the CAMP, as well as the full Summary of Recommendations, are attached in Appendix A.

To help the Advisory Committee further its mission to protect, preserve, and enhance the quality and quantity of water resources in the Watershed and to sustain economic well-being and protect the environment for present and future generations, the Plan establishes the following goals:

1. Manage the Watershed to help protect Lake Mead as a source of water for southern Nevada and downstream users.
2. Meet or surpass federal, state, and local standards and regulations.
3. Preserve and enhance the natural, cultural, historic, and recreational values of the watershed.
4. Sustain and coordinate water resources for future generations.
5. Manage flood risks.
6. Build community awareness and support for regional watershed management.

The Plan also considers the social and economic impacts that may affect future water quality and water resources. The Plan is attached in Appendix A.

Is one of the purposes of the strategy or plan to increase the reliability of water supply for ecological values?

The CAMP Summary of Recommendations (included in Appendix A) prioritized stabilizing the Wash and reestablishing wetland areas through a variety of methods, while Goal 3 of the Plan includes preservation and enhancement of the natural values of the Watershed.

Does the project address an adaptation strategy specifically identified in a completed WaterSMART Basin Study or Water Management Options Pilot (e.g., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes)?

The Colorado River Basin Water Supply and Demand Study, Technical Report F, Development of Options and Strategies, calls out watershed management as a strategy to increase water supply in the basin. Specific watershed management options related to the proposed project include brush control and control of invasive tamarisk in riparian areas.

Was your strategy or plan developed collaboratively? Who was involved in preparing the plan? Was the plan prepared with input from stakeholders with diverse interests (e.g., water, land, or forest management interests; and agricultural, municipal, tribal,

environmental, recreation uses)? What was the process used for interested stakeholders to provide input during the planning process?

Both the CAMP and the Plan were prepared with input from members. Members of the Coordination Committee represent diverse interests beyond water, including land, recreation, and environmental uses. Coordination Committee meetings are open to the public and include two public comment periods, so all stakeholders and the public were able to comment during the CAMP development process.

The agencies on the Advisory Committee also represent diverse interests beyond water, including land, recreation, and environmental uses. During the creation of the 2009 Plan document and the 2012 Plan revision, there were progress reports at several Advisory Committee meetings. Since all Advisory Committee meetings are open to the public and each meeting includes two public comment periods, all stakeholders and the public were able to provide input throughout the process. In addition, all member agencies took the Plan to their boards for approval, providing additional opportunities for the public to comment.

If the plan was prepared by an entity other than the applicant, explain why it is applicable.

Not applicable as the CAMP was prepared by the Coordination Committee and the Plan was prepared by the Advisory Committee.

Describe how the plan or strategy provides support for your proposed project. Does the proposed project implement a goal or need identified in the plan? Describe how the proposed project is prioritized in the referenced plan or strategy.

As the population of southern Nevada grows, increased volumes of water flow to Lake Mead, which can affect water quality, as addressed in the Plan. Since Lake Mead is the source of approximately 90 percent of southern Nevada's water, there are constant efforts to protect and ensure water quality. Maintaining the health of the Wash through revegetation and restoration projects, such as the proposed project, is a priority in the Plan's first goal for the Watershed.

The Wash also presents opportunities for recreation and to support environmental resources such as wildlife and wildlife habitat. This is a priority for the Plan's third goal for the Watershed, which includes a focus on the natural and recreational values in the Wash. As the Wash winds through the CCWP, visitors have extensive recreational opportunities, including hiking, participating in nature walks, bird watching, biking, or riding horses. The Wash also supports a variety of birds, including the previously mentioned endangered southwestern willow flycatcher and threatened yellow-billed cuckoo.

The Plan's third goal also recognizes the CAMP. This document was created by the Coordination Committee through the work of several study teams and presents 44 recommendations or action items to be implemented for the stabilization and long-term management of the Wash. In the CAMP, the Environmental Resources Study Team recommended developing long-term management and monitoring plans that included vegetation enhancement, water quality, and fish and wildlife management. As stated previously, the

Advisory Committee provides funding and oversight for the Coordination Committee and the implementation of this and other action items along the Wash, and SNWA is the lead agency of the Coordination Committee.

E.1.3. Evaluation Criterion C—Stakeholder Support

Please describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions, or through other types of contributions to the project?

The proposed project is supported by members of the Coordination Committee, as well as members Advisory Committee. Letters of support from the Advisory Committee and the Nevada Division of Forestry are included in Appendix B.

Please explain whether the project is supported by a diverse set of stakeholders (appropriate given the types of interested stakeholders within the project area and the scale, type, and complexity of the proposed project). For example, is the project supported by entities representing agricultural, municipal, tribal, environmental, or recreation uses?

Through its support by the members of the Coordination and Advisory Committees, the project is supported by a coalition representing municipal and county water, wastewater, and stormwater agencies, as well as land, recreation, and environmental perspectives.

Is the project supported by entities responsible for the management of land, water, fish and wildlife, recreation, or forestry within the project area? Is the project consistent with the policies of those agencies?

The project is supported by entities responsible for land and water management within the Watershed, as they are members of the Advisory Committee. Additionally, land within the CCWP is owned by Clark County and/or leased from Reclamation and managed for recreation by Clark County (a member of the Advisory Committee) and the proposed project has the support of both entities.

Will the proposed project complement other ongoing water management activities by state, Federal, or local government entities, non-profits, or individual landowners within the project area? Please describe other relevant efforts, including who is these efforts and whether they support the proposed project. Explain how the proposed project will avoid duplication or complication of other ongoing efforts.

The proposed project complements and continues ongoing water management activities in the Watershed. For more than 20 years, SNWA, in its role as lead agency of the Coordination Committee and as a member of the Advisory Committee, has led stabilization and revegetation efforts in the Watershed, installing more than 20 erosion control structures and nearly 600 acres of native upland, riparian, and wetland vegetation along the Wash. Over 1,500 acres of noxious weeds have been removed or treated by SNWA, its contractors, and others working in the area. The Wash is now home to more than 375 vertebrate and nearly 600 invertebrate species of wildlife, including the threatened yellow-billed cuckoo and desert tortoise, and the endangered Yuma Ridgway's rail and southwestern willow flycatcher. In that same timeframe, TSS has been

reduced by approximately 60 percent, which led to the removal of the Wash from the state's list of impaired waters.

SNWA, the Coordination Committee, and the Advisory Committee are responsible for Watershed management and protection activities on the Wash along with its partners, Clark County and Reclamation. As stated previously, the county manages the land within the CCWP and both Clark County and Reclamation own portions of it. SNWA will continue to coordinate with these partners to ensure its efforts are not duplicative of theirs. Clark County is a member of the Advisory Committee, Clark County Parks and Recreation and Reclamation are members of the Coordination Committee, and procedures are in place for coordination with these agencies during projects along the Wash.

Is the project completely or partially located on Federal land or at a Federal facility? If so, explain whether the agency supports the project, whether the agency will contribute toward the project, and why the Federal agency is not completing the project.

A portion of the proposed project area within the CCWP is on Reclamation land. As a member of the Coordination Committee, Reclamation has long supported the stabilization and revegetation efforts on the Wash. The local office will not be contributing to the costs of the project as the match must be provided by non-federal sources. Reclamation is not completing the proposed project as the land is managed by Clark County.

Is there opposition to the proposed project? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.

There is not any known opposition to the proposed project.

E.1.4. Evaluation Criterion D—Readiness to Proceed

Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. This may include, but is not limited to, design, environmental and cultural resources compliance, permitting, and construction/installation. The project budget outlining costs for specific tasks should identify costs associated with the tasks in your project schedule, and all contractor costs should be broken out to identify the specific tasks included in those costs.

This project will increase the size of existing riparian habitat along the Wash by planting approximately 13 acres with riparian species. Riparian trees to be planted include Fremont's cottonwood, Goodding's willow, and sandbar willow. The trees will be planted using poles and cuttings. The vegetation will be installed in areas near surface water or high-water tables. Poles and cuttings will be collected from nearby sites. Channels or pools will be created within the sites using heavy equipment such as an excavator, backhoe, or skid steer; individual holes will also be dug using augers. Plant materials will be inserted along the edges of the trenches, pools, and holes to the appropriate depth. Native seeds will be purchased from local nurseries to be spread throughout the sites, creating a diverse riparian understory to enhance the wildlife habitat. Invasive and noxious weeds will be removed and monitored to allow optimum conditions for the native trees and shrubs to survive. Weeds will be removed from the site by manual, mechanical, and chemical methods.

Table 1. Project Schedule

Milestone / Task / Activity	Planned Start Date	Planned Completion Date
Grant awarded and work on agreement Complete necessary Environmental Compliance Prepare and finalize plans for implementation Apply for necessary permits and obtain landowner approval Identify plant-material providers Procure contracts (excavation and labor contractors and plant nurseries) Procure plants Conduct biological surveys	Pre-award (Jun. 2022)	Aug. 2022
Agreement finalized	Pre-award	Aug. 2022
Procure engineering design contractor Remove invasive weeds Procure native seed mixes Monitor sites Conduct biological surveys Complete interim financial and progress reports	Sept. 2022	Oct. 2022
Harvest tree poles and cuttings and prepare for planting Create trenches, channels, and pools for plantings Conduct biological surveys	Nov. 2022	Dec. 2022
Complete engineering design Procure construction contractor Remove gravel from site Prepare planting areas for potted plants and seeds Install tree poles and cuttings Install potted plants Conduct biological surveys	Jan. 2023	Mar. 2023
Install potted plants and spread seeds Control weeds in all areas Monitor vegetation Conduct biological surveys Complete interim financial and progress reports	Apr. 2023	May 2023
Control weeds in all planting areas Conduct biological surveys Monitor vegetation Complete interim financial and progress reports	Jun. 2023	Aug. 2025
Complete biological surveys	Ongoing post-award	Ongoing post-award

Describe any permits and agency approvals that will be required, along with the process and timeframe for obtaining such permits or approvals.

Permits required for the proposed project include:

- Landowner Authorization from Reclamation and/or Clark County
- U.S. Army Corps of Engineers Temporary Working in Waterways (possibly needed)
- Nevada Division of Environmental Protection (NDEP) 401 Water Quality Certification
- NDEP Stormwater Permit
- Clark County Dust Control Permit

SNWA's Project Manager will obtain the permits with assistance from one of the Environmental Biologists working on the project. With the organization's long-standing experience in coordinating vegetation activities at the Wash with these partners, the permit and approval process should be authorized within 90 days of submitting the requests.

Identify and describe any engineering or design work performed specifically in support of the proposed project, or that will be performed as part of the project. Priority will be given to projects that are further along in the design process and ready for implementation.

Preliminary design work has been completed internally, please see Figure 1, the proposed project area map, on page four of this proposal.

Contracted engineering and landscape design work will be completed for the proposed project, including the removal of gravel deposited on the site, contouring to allow for planting and water flow (not impacting existing erosion control measures), and revegetating and restoring approximately 13 acres of riparian corridors along the Wash with native riparian trees. Trenches will be created using an operator and backhoe or excavator to dig to groundwater level, which eliminates the need for irrigation. Riparian poles, cuttings, and potted plants will be planted, and seeds will be dispersed along these channels. Other areas outside the trenches will focus on extending existing native riparian trees to create a lush, dense forest with the ability to support many wildlife communities, as well as the endangered southwestern willow flycatcher and the threatened yellow-billed cuckoo. These trees will be planted using an auger to reach the groundwater for the installation of tree poles and cuttings. Emergent species will also be planted along the Wash channel. Invasive weeds will be removed and monitored to allow for successful plantings of native species. These project areas will create the riparian habitats that many animals rely on along the Wash.

Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, please provide documentation. If the applicant does not yet have permission to access the project location, please describe the process and timeframe for obtaining such permission.

Yes, SNWA has access to the proposed project location. Authorization from Reclamation and/or Clark County will be obtained as described in the preceding permits and agency approvals statement.

Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with

compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation’s costs and the contractor’s costs. Describe any new policies or administrative actions required to implement the project.

Staff contacted the local Reclamation office to discuss a baseline for potential costs associated with environmental and cultural compliance. The proposed budget contains a line item for \$20,000 for associated costs. SNWA does not anticipate any new policies or administrative action required to implement the project.

E.1.5. Evaluation Criterion E—Performance Measures

Please describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen. All applicants are required to include information about plans to monitor improved streamflows, aquatic habit, or other expected project benefits. Please describe the plan to monitor the benefits over a five-year period once the project has been completed. Provide detail on the steps to be taken to carry out the plan.

As stated in Section 4, it can take several years for riparian habitat to mature and be utilized by wildlife, so the benefits of this project will not be fully realized in the three-year project period. Thus, performance measures will occur in two timeframes and across two categories. The first will occur in the three-year project period and measure planting success and other site criteria. The second will be conducted during the project period but then will continue for two to three years afterwards and measure benefits to wildlife.

1. Measures of Planting Success and Other Site Criteria

- **Survival Data.** *Propagated Plants.* Survival data will be reported as the percent of living plants of the total number installed in the project site(s). *Poles and cuttings.* Data will be reported as the approximate percentage of installed poles or cuttings still alive at the end of the first growing season.
- **Species Richness.** Species richness is the number of species (native and non-native) at the site(s). These data will be compared to the species richness prior to the planting performed as part of this project.
- **Photo Points.** Photo points will be established at the project site(s) before any work is initiated, and then photos will be taken after various treatments such as ground preparation and planting have been implemented.

2. Measures of Benefits to Wildlife

- **Biological Surveys.** The true measure of project benefits will be use of the new vegetation by wildlife, particularly birds. There is a year-round, biweekly survey for birds at more than 30 points along the Wash, including the proposed project site. Targeted surveys are also conducted for the southwestern willow flycatcher and yellow-billed cuckoo in the breeding season using federal protocols. For the flycatcher, standard measurements are migrant detections (unknown subspecies) and breeding territories (residents of the endangered subspecies). For the cuckoo, results are measured in

detections and then in detections across survey periods, yielding possible, probable, or confirmed breeding territory designations. Other biological surveys may also occur.

E.1.6. Evaluation Criterion F—Presidential and Department of Interior Priorities

Climate Change: E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits? Please estimate the extent to which the project will build resilience to drought and provide support for your estimate.

Riparian areas perform vital functions in watersheds. Enhancing and expanding these corridors will help increase flood water retention and groundwater recharge, helping to reduce drought impacts. Additionally, by excavating and planting native species close to the water table and increasing patch sizes, this project will help increase the drought resiliency of these important habitat types and the wildlife that relies on them. The riparian species proposed to be planted in this project (Goodding’s willow, sandbar willow, and Fremont’s cottonwood) have lifespans of up to 50 years or more, so it is expected that the benefits will last at least this long. Natural reproduction of these species may extend the timeframe of these benefits even longer.

In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?

Restoration projects support the watershed by reducing flooding and erosion. The project will also include the removal of dead and diseased vegetation within the project area which will reduce the chances of wildfires in the area.

Will the proposed project establish and use a renewable energy source?

The proposed project will not establish and use a renewable energy source. SNWA is committed to conserving energy and utilizing renewable resources when possible to ensure energy is available to meet southern Nevada’s security and economic needs. SNWA voluntarily committed to meet 50 percent of its energy needs through renewable resources by 2030, which parallels Nevada's recently revised Renewable Energy Portfolio Standards. The savings generated by the proposed project will allow the SNWA to further reduce its non-renewable market purchases, increasing the emphasis on renewable energy.

Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation?

New trees, shrubs, and other plants will be planted, all of which perform some level of carbon sequestration.

Does the proposed project include green or sustainable infrastructure to improve community climate resilience such as reducing the urban heat island effect, lowering building energy demands, or reducing the energy needed to manage water? Does this infrastructure complement other green solutions being implemented throughout the region or watershed?

The proposed project builds on the past progress of the Coordination Committee and CCWP which have restored nearly 600 acres of upland, riparian, and wetland habitat on the eastern edge of the Valley. These areas have been transformed from being dominated by invasive species and degraded by erosion and are now providing habitat to a variety of native wildlife species and working toward reducing the heat island effect from the adjacent municipalities.

Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?

The riparian plantings will assist in the uptake of nutrients and metals from the Wash, as well as stabilize the banks of the channel. This will reduce erosion and the amount of TSS flowing downstream into Lake Mead, the primary drinking water supply for southern Nevada.

Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?

Yes, this proposed project is within the scope of the Coordination Committee's CAMP document. The CAMP includes the goals of promoting healthy lands and soils as well as the main objective of protecting and enhancing the Wash, a vital component to the Valley's water supply.

Does the proposed project contribute to climate change resiliency in other ways not described above?

No; the proposed project will contribute to climate change resiliency in the ways described above.

Disadvantaged or Underserved Communities: E.O. 14008 and E.O. 13985 affirm the advancement of environmental justice and equity for all through the development and funding of programs to invest in disadvantaged or underserved communities.

Will the proposed project serve or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, or economic growth opportunities.

Although the proposed project does not directly benefit a specific disadvantaged or historically underserved community, it does indirectly benefit these communities due to the water quality benefits to the entire service area.

If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the applicable state criteria or meets the definition in Section 1015 of the Cooperative Watershed Act, (i.e., defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the state).

The [Nevada median household income is \\$60,365](https://www.census.gov/quickfacts/NV) in 2019 dollars, per the U.S. Census Bureau (<https://www.census.gov/quickfacts/NV>). In looking at a breakdown of median household income by race in Las Vegas and surrounding cities or areas of unincorporated Clark County in the SNWA service (Table 2), it can be surmised that households earning less than 100 percent of the statewide median household income will indirectly benefit from the proposed project.

Table 2. Median Household Income by Race: Cities near Las Vegas

	Las Vegas	Henderson	North Las Vegas	Paradise	Spring Valley	Sunrise Manor
American Indian or Alaska Native	\$40,221	\$62,500	\$54,569	\$43,786	No data	\$43,177
Asian	\$60,836	\$76,752	\$72,679	\$49,527	\$66,747	\$61,319
Black or African American	\$36,464	\$51,813	\$49,574	\$32,528	\$45,752	\$29,365
Hispanic or Latino	\$47,898	\$65,313	\$54,238	\$44,268	\$55,279	\$47,114
Native Hawaiian or Pacific Islander	\$65,859	\$82,730	\$62,024	\$46,433	\$79,625	\$41,339
White	\$62,987	\$76,273	\$65,430	\$54,273	\$59,099	\$45,643

Groups highlighted in yellow have a median household income below Nevada’s state median household income. City median household data from [Data Commons](https://datacommons.org/place/geoId/3240000?utm_medium=explore&mprop=income&popt=Person&cpv=age%2CYears15Onwards&hl=en), utilizing U.S. Census data (https://datacommons.org/place/geoId/3240000?utm_medium=explore&mprop=income&popt=Person&cpv=age%2CYears15Onwards&hl=en).

If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.

To see which underserved communities will indirectly benefit from the proposed project, consider a snapshot of population demographics in the county. Table 3 below outlines these demographics. Additionally, 31.6 percent of residents in Clark County identify as Hispanic or Latino. ([U.S. Census Bureau Quick Facts, Clark County, Nevada](https://www.census.gov/quickfacts/fact/table/clarkcountynevada/RHI225219#RHI225219) <https://www.census.gov/quickfacts/fact/table/clarkcountynevada/RHI225219#RHI225219>)

Table 3. Underserved Populations by Race, Percentage of Clark County Population

Black or African American, alone	13.1%
American Indian and Alaska Native, alone	1.2%
Asian, alone	10.4%
Native Hawaiian or Other Pacific Islander, alone	0.9%
Two or More Races	4.9%

Tribal Benefits: The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President’s memorandum, Tribal Consultation and Strengthening Nation-to Nation Relationships,

asserts the importance of honoring the Federal government’s commitments to Tribal Nations.

Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, or economic growth opportunities?

Due to the water quality benefits, the project also benefits Tribal water users in the Lower Basin, including the Fort Mojave Indian Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Quechan Indian Tribe, and Cocopah Indian Tribe.

Does the proposed project support Reclamation’s Tribal trust responsibilities or a Reclamation activity with a Tribe?

Due to the water quality benefits, the proposed project supports Reclamation’s Tribal trust responsibilities with Tribal water users in the Lower Basin.

6. Project Budget: Funding Plan

SNWA as an organization is funded by diverse sources, including a quarter-cent sales tax, connection fees, commodity fees, and reliability charges. These revenue sources provide the organization with a mix of funding sources, which help ensure the financial stability and capacity of the organization. Matching funds for this project will be provided by SNWA. No funding will be provided by a source other than the applicant, so no letters of commitment are required.

7. Project Budget: Budget Proposal

Table 4. Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$900,500
Cost to be paid to the applicant	\$314,272
Value of third-party contributions	\$-
TOTAL PROJECT COST	\$1,214,772

Table 5. Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages				
PM Jason Eckberg, Environmental Biologist II	\$67	1320	Hour	\$88,440
Environmental Biologist II (N. Rice)	\$63	450	Hour	\$28,350
Environmental Biologist II (D. Van Dooremolen)	\$67	215	Hour	\$14,405
Environmental Biologist I (T. Ricks)	\$55	215	Hour	\$11,825
Preserve Archaeologist I (N. Harper)	\$53	90	Hour	\$4,770

Division Manager (K. Crear)	\$84	90	Hour	\$7,560
Division Manager (R. Pearson)	\$84	400	Hour	\$33,600
Administrative Secretary	\$37	90	Hour	\$3,330
Assistant Management Analyst (J. Schoolmeester)	\$40	60	Hour	\$2,400
Fringe Benefits				
PM Jason Eckberg, Environmental Biologist II	61.43%	\$88,440	Pct.	\$54,329
Environmental Biologist II (N. Rice)	61.43%	\$28,350	Pct.	\$17,415
Environmental Biologist II (D. Van Dooremolen)	61.43%	\$14,405	Pct.	\$8,849
Environmental Biologist I (T. Ricks)	61.43%	\$11,825	Pct.	\$7,264
Preserve Archaeologist I (N. Harper)	61.43%	\$4,770	Pct.	\$2,930
Division Manager (K. Crear)	61.43%	\$7,560	Pct.	\$4,644
Division Manager (R. Pearson)	61.43%	\$33,600	Pct.	\$20,640
Administrative Secretary	61.43%	\$3,330	Pct.	\$2,046
Assistant Management Analyst (J. Schoolmeester)	61.43%	\$2,400	Pct.	\$1,475
Travel				
N/A	\$0.56	0	Miles	\$0.00
Equipment				
N/A				
Supplies and Materials				
Plants: NV Division of Forestry (or equivalent)	\$7	10,000	Plant	\$70,000
Mix of Native Seeds: Granite Seed (or equivalent)	\$10	1000	Pound	\$10,000
Contractual				
<i>Construction and Engineering Contract</i>				
Engineering Design Work	\$40,000	1	Contract	\$40,000
Engineering Contractor	\$400,000	1	Contract	\$400,000
<i>Soil-Tech (or equivalent)</i>				
Labor	\$18	8000	Hour	\$144,000
Equipment Operator	\$22	2000	Hour	\$44,000
Field Supervisor	\$30	2000	Hour	\$60,000
Site preparation supplies and materials	\$75,000	Misc.	Misc.	\$75,000
<i>NV Division of Forestry</i>				
Conservation Camp Crew	\$750	50	Daily Rt.	\$37,500

Third-Party In-Kind Contributions				
N/A				\$0.00
Environmental Compliance				
Environmental Compliance Costs Estimate	\$20,000	1	Misc.	\$20,000
Other				
N/A	\$0.00			\$0
TOTAL DIRECT COSTS				\$1,214,772
Indirect Costs				
Type of Rate	Pct.	\$base		\$0
TOTAL ESTIMATED PROJECT COSTS				\$1,214,772

8. Project Budget: Budget Narrative

All costs are direct and necessary for program implementation. The non-federal contribution is 25 percent; the federal contribution is 75 percent.

Salaries and Wages: Project Manager Jason Eckberg, Environmental Biologist II, will develop and implement the project plan and manage contract development. He will also purchase plants, as well as manage the timeline and relationship with the contractor. Mr. Eckberg will assist with biological surveys and conduct site and plant monitoring to ensure success on project performance measures. He will also be instrumental in the timely completion of progress reports. He will spend an estimated 1,320 hours on the project at \$67 per hour.

Nicholas Rice, Environmental Biologist II, will assist with project implementation and project design, as well as assist with biological surveys and reporting. Mr. Rice will coordinate with the contractor on invasive and noxious weed removals. He will spend an estimated 450 hours on the project at \$63 per hour. Deborah Van Dooremolen, Environmental Biologist II, will conduct biological surveys and assist with grant management and reporting. She will spend an estimated 215 hours on the project at \$67 per hour. Timothy Ricks, Environmental Biologist I, will conduct biological surveys and assist with grant management and reporting. He will spend an estimated 215 hours on the project at \$55 per hour. Nathan Harper, Preserve Archaeologist I, will conduct all cultural resource work needed for the project, spending an estimated 90 hours at a rate of \$53 per hour.

Keiba Crear, Division Manager, supervises the staff conducting the project. She will review projects plans and reports and approve invoices. Her project time is estimated at 400 hours at \$84 per hour. Ryan Pearson, Engineering Division Manager, will offer oversight and review of the engineering designs and construction contract. His time is estimated at 90 hours at \$84 per hour. An Administrative Secretary will assist with preparing and processing invoices for 90 hours at \$37 per hour. Julie Schoolmeester, Assistant Management Analyst, will assist with grant management and reporting. She is estimated to contribute 60 hours to the project at \$40 per hour.

Fringe Benefits: 61.43% SNWA benefits for permanent, full-time employees. The breakdown is provided in Table 6.

Table 6. Fringe Benefit Breakdown

OPEB Expense	1.47%
FICA	8.17%
SIIS Premium	0.74%
Unemployment Premium	0.11%
Group Health Insurance	15.28%
Retirement (excluded for LTEs)	35.66%
Total	61.43%

Travel: Not applicable to this project.

Equipment: Not applicable to this project.

Supplies and Materials: Staff will purchase an estimated 10,000 plants from the Nevada Division of Forestry Nursery (or equivalent) at \$7/plant. Staff will also purchase 1,000 pounds of native seed mix at \$10/pound from Granite Seed (or equivalent). Costs were calculated based on biologists' estimates and experience. Invoices from previous projects are included in Appendix C to support these estimates.

Contractual: A construction and engineering design contract will be procured for the proposed project. This may be combined into a single contract based on engineer evaluation. This contract will cover the design of the construction phase of the project. Existing erosion controls are adjacent to the proposed project site and design evaluation must include assurances that these are not compromised. The construction contractor will be responsible for grading and contouring to grades determined by the design that allow for both successful establishment of riparian vegetation and for proper Wash flow so that existing vegetation and erosion control infrastructure are not negatively impacted. Based on the Project Manager's expertise and experience, \$440,000 is budgeted for this contract.

Multiple labor contracts will be required for the proposed project. Tasks to be completed by contracted labor include weed management; harvesting, preparing, and installing poles, cuttings, and plugs; installing propagated trees and wetland plants; and spreading seed. This contract will be procured through a formal bidding process. Costs were calculated based on biologists' estimates and experience. Invoices from previous projects are included in Appendix C to support these estimates.

Third-Party In-Kind Contributions: Not applicable to this project.

Environmental and Regulatory Compliance Costs: Please review responses in the Environmental and Cultural Resources section. Staff discussed the proposed project generally with a representative from the local Reclamation office to set a baseline for possible environmental compliance costs. The proposed project budget includes \$20,000 to cover possible costs associated with environmental and cultural resource compliance.

Other: Not applicable to this project.

Total Direct Costs: Reclamation is requested to contribute \$900,500 toward direct costs. SNWA will provide a matching contribution of \$314,272.

Indirect Costs: Not applicable. All direct costs align with eligible categories. SNWA does not have a federally negotiated indirect cost rate agreement. No funds are requested for indirect costs.

9. Environmental and Cultural Resources Compliance

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The proposed project would revegetate and restore approximately 13 acres of riparian corridors along the Wash within the CCWP. The revegetation project would involve earth-disturbing work including removing non-native vegetation, digging trenches, augering holes, removing excess deposited sediments, grading and recontouring, and planting native vegetation. Small to medium equipment, including augers, compact loaders, mini-excavators, and trenchers would be used at the site, as appropriate. Water would be used to control dust during earth-disturbing activities. Impacts to soil and air quality would be minimal and temporary. Although restoration activities and resulting soil erosion may have short-term adverse impacts to water quality, the long-term impacts would be beneficial due to expanded riparian corridors that reduce erosion, improve water quality, and provide wildlife habitat. There would be no impacts to water quantity. The proposed project would temporarily increase ambient noise levels during restoration activities, but no long-term impacts are expected. To reduce short-term impacts on bird species, earth-disturbing work would either be conducted outside the nesting season (November 2022 through February 2023) or a biologist would conduct clearance surveys prior to the work and establish a buffer if a nest was found. Following proposed project revegetation, the riparian areas would expand potentially suitable nesting habitat and improve habitat quality for wildlife including the federally endangered southwestern willow flycatcher and the threatened yellow-billed cuckoo.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

Four Federally threatened or endangered species have been documented near the proposed project: the federally endangered southwestern willow flycatcher, endangered Yuma Ridgway's rail, threatened yellow-billed cuckoo, and threatened desert tortoise. There is no designated critical habitat for any of the bird species in the project area. The U.S. Fish and Wildlife Service has consulted on activities within the CCWP that could disturb desert tortoise and Biological Opinion 84320-2009-F-0165 was issued.

The proposed project would benefit the flycatcher and cuckoo by increasing the amount and quality of potentially suitable nesting habitat along the Wash. To minimize short-term disturbances, earth-disturbing work will occur outside of the breeding season and/or a biologist

will conduct clearance surveys and buffers would be established around nests. To comply with Biological Opinion 84320-2009-F-0165 and to ensure the protection of desert tortoise, a biologist will monitor for the species during earth-disturbing work.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.

There are no wetlands or other surface waters inside the project area boundaries that potentially fall under Clean Water Act jurisdiction as “Waters of the United States.”

When was the water delivery system constructed?

The Wash is a natural ephemeral channel that developed prior to the mid-twentieth century. From the 1950s to the 1970s, rapid urban development in the Valley resulted in increased stormwater runoff, urban runoff, and treated wastewater discharges that caused the establishment of extensive wetland and riparian areas along the Wash. By the 1980s, increasing base flows and periodic flood flows in the Wash contributed to extensive erosion, as well as loss of wetlands, loss of property, damage to infrastructure, excessive sediment transport to Lake Mead, and water quality degradation.

The Wash is the primary conveyance for stormwater flows from the Watershed, and it is critically important for this system to be perpetually managed for these purposes. As such, in the late 1990s the Coordination Committee was formed, a long-term plan was created, and in 2000 implementation of the plan began to prevent further degradation of the Wash. Today, the Wash includes natural channels as well as control structures built over the last 20 years.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

The proposed project would not result in the modification of an irrigation system.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

The proposed project area lies in the Wash Archaeological District and is located within a previously disturbed area. There are no buildings, structures, or features in the proposed project area listed or eligible for listing on the National Register of Historic Places. A Secretary of Interior-qualified cultural resources specialist will monitor any earth-disturbing activities within the proposed project area.

Are there any known archeological sites in the proposed project area?

There are no known archeological sites in the proposed project area. A Secretary of Interior-qualified cultural resources specialist will monitor any earth-disturbing activities within the proposed project area.

Will the proposed project have a disproportionately high and adverse effect on low income and minority populations?

The proposed project would not have a disproportionately high and adverse effect on low income and minority populations.

SNWA has implemented a robust outreach program over the past 20 years with specific programs targeting minorities and low-income populations in the Las Vegas Valley. These programs educate the public of our local watershed and how their activities impact the water quality of the Wash and Lake Mead.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts to tribal lands?

There would be no direct benefits or adverse effects to Indian tribes by the proposed project. There are no Indian sacred sites or tribal lands within the proposed project area. The proposed project would not limit access to and ceremonial use of Indian sacred sites and would not result in any impacts on tribal lands.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

The proposed project would remove noxious weeds and non-native invasive species and would reduce seed sources for noxious weeds and non-native invasive species in the project area. Equipment would be free of noxious weeds and non-native invasive species prior to arriving at the proposed project area and prior to departing. Therefore, the proposed project would not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

10. Required Permits or Approvals

Approvals described in Evaluation Criterion D will be obtained.

11. Letters of Support

Attached in Appendix B.

12. Official Resolution

An official resolution authorizing the submission of this proposal and confirming the subject matching requirements will go before the SNWA Board of Directors at its January 20, 2022 meeting. A copy will be forwarded to Reclamation at that time, as communicated to the Program Coordinator.

13. Unique Entity Identifier

SNWA maintains an active registration in SAM.gov. Its Cage Code is 3NRT9. SNWA's unique entity identifier, or DUNS No., is 135965650, and SNWA's SAM Unique Identifier is SM1CPB4X7E88.

14. Supporting Documents: Appendices A - C

All appendices are included as attachments via grants.gov.

Appendix B
Letters of Support

Southern Nevada Water Authority
Las Vegas Wash Riparian Restoration Project

WaterSMART Environmental Water Resources Projects for Fiscal Year 2022 Application

Las Vegas Valley Watershed Advisory Committee



12/7/2021

Mr. Josh German and Ms. Robin Graber
Bureau of Reclamation
Water Resources and Planning Office
P.O. Box 25007
Denver, CO 80225

SUBJECT: Letter of Support for the Southern Nevada Water Authority's Grant Application

Dear Mr. German and Ms. Graber:

The Las Vegas Valley Watershed Advisory Committee (LVVWAC) is pleased to provide this letter of support for the Southern Nevada Water Authority's (SNWA's) application to the Bureau of Reclamation WaterSMART Environmental Water Resource Project for the proposed project to revegetate and restore riparian areas along the Las Vegas Wash within the Clark County Wetlands Park. This project will improve habitat for wildlife and positively impact water quality in the Las Vegas Wash, an important tributary to Lake Mead.

LVVWAC was formed in 2007 to enhance Southern Nevada's overall watershed management efforts and to develop a regional water quality plan for the Las Vegas Valley watershed. The committee is a grassroots, non-regulatory entity that addresses water availability and quality issues within Southern Nevada's watershed. LVVWAC is comprised of Southern Nevada's eight water and wastewater agencies, including the SNWA, and meets regularly to coordinate watershed protection and management efforts, including water quality and environmental issues affecting the Las Vegas Wash. The committee works to further its mission to protect, preserve, and enhance the quality and quantity of water resources in the Las Vegas Valley watershed and to sustain economic well-being and protect the environment for present and future generations.

Thank you for your consideration for this funding opportunity.

Sincerely,



Priscilla Howell
Las Vegas Valley Watershed Advisory Committee

cc: Zane L. Marshall, Southern Nevada Water Authority, Director, Water Resources
Keiba K. Crear, Southern Nevada Water Authority, Manager, Stewardship & Sustainability



STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
NEVADA DIVISION OF FORESTRY
4747 Vegas Drive
Las Vegas, Nevada 89108
Phone (702) 486-5123 Fax (702) 486-5186

12/07/2021

Mr. Josh German and Ms. Robin Graber
Water Resources and Planning Office
United States Bureau of Reclamation, Denver, Colorado

Letter of Support

The Nevada Division of Forestry is pleased to provide a letter of support of the Southern Nevada Water Authority's (SNWA's) application for funding from the WaterSMART Environmental Water Resource Project. SNWA is proposing to restore riparian habitat long the Las Vegas Wash corridor within Clark County Wetlands Park. Over the years (for at least two decades) SNWA biologists and engineers have transformed the Las Vegas Wash, a historic wetland system connecting the upland watersheds with the Colorado River, from a degraded system utilized exclusively for flood control and treated waste-water transmission into a thriving and functional riparian habitat and urban river, protecting the water supply to Lake Mead. They also have a record of transforming degraded riparian environments into productive and functioning ecosystems throughout the rare and important stream, spring, and riversides throughout southern Nevada.

Our agencies have collaborated on several projects utilizing multiple funding sources to achieve objectives like riparian habitat restoration and mitigating wildfire hazards through invasive species removal. SNWA has the staff, expertise, and internal support to implement large scale projects through direct work of their staff and the ability and competency to implement large and complex contracts. They have the capacity to effectively manage everything from volunteer tree plantings (thousands of plants in a single day), to contracting heavy equipment for stream-course modifications and vegetation removal and habitat establishment at a landscape scale.

Additionally, SNWA are good and reliable project partners. They always follow through with their match sources when working on projects funded through our agency, and they are generous to the regional habitat restoration communities. They readily facilitate partner projects by giving access to plant material and seed sources. Their proven record of large-scale restoration implementation throughout southern Nevada can easily be referenced to show they have the capabilities to implement projects effectively and correctly. We would recommend them for any funding opportunity and hope we can continue to partner with them on projects in the future.

Cy SF

Cayenne Engel

Urban and Community Forestry Program Coordinator
Department of Conservation and Natural Resources
Nevada Division of Forestry
4747 Vegas Drive
Las Vegas, NV 89108
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